Claims:

1. A method in the control of a press brake cell formed by a numerically controlled press brake (6) and one or more robots (9) serving the same, which method comprises at least the following steps:

- a first step (101) to store sheet parameters representing the material, original dimensions or other properties of the sheet to be machined in the press brake cell, as well as bending parameters representing the bendings to which the sheet is subjected in the press brake (6),
- a second step (102), in which the parameters stored in the first step (101) are utilized to define the bending order, *i.e.* the optimized order of bendings of the sheet in the press brake (6), by simulating the bending procedure or in a corresponding manner,
- a third step (103), in which the information obtained from the first (101) and second (102) steps is stored as a provisional result in a data format which is preferably selected to make a graphic representation of the bending operation possible,
- a fourth step (104), in which the provisional result stored in the third step (103) is converted to a bending program (100) for the numerical control (1000) of the press brake (6), or the like,

**characterized** in that the method also comprises at least:

- a fifth step (105), in which the provisional result of the third step (103) and/or the bending program (100) of the fourth step (104) is analyzed to compile a bend line table (BLT), which table indicates, for the bendings to which the sheet is subjected in the press brake (6), the bend lines and their locations and positions in the coordinate system (X, Y, Z), whose origin is the sheet centre (AKP) of the sheet to be machined, and

- a sixth step (106), in which the bend line table (BLT) is set to be used as a variable for movement programs (200), or the like, for one or more robots (9) serving the press brake (6), or the like.

2. The method according to claim 1, **characterized** in that the sheet centre (AKP) is selected to be the centre of a sheet square, which sheet square refers to the smallest possible two-dimensional quadrangle inside which the sheet to be machined fits.

3. The method according to claim 2, **characterized** in that the bend line table (BLT) indicates following data for each successive bend line in the bending order:

- side (A, B, C, D) of the sheet square subjected to said bending.

4. The method according to claim 1, 2 or 3, **characterized** in that the bend line table (BLT) indicates one or more of the following data for each successive bend line in the bending order:

- distance between the sheet centre (AKP) and the centre of said bend line in the X-direction of the coordinate system (X, Y, Z),
- distance between the sheet centre (AKP) and the centre of said bend line in the Y-direction of the coordinate system (X, Y, Z),
- length of said bend line,
- length of the edge to be bent,
- angle to be bent,
- rotation of said bend line around the Z-axis,
- position in the direction of the tools (11, 12) of the press brake (6), to which the centre of said bend line should be brought.

5. The method according to any of the preceding claims, **characterized** in that the total number of gripping points, or grips of the sheet by one or more robots (9) manipulating the sheet, is minimized by planning a single gripping point for the sheet in such a way that said gripping point can be preferably used to perform several successive bendings corresponding to the bend line.

6. The method according to any of the preceding claims, **characterized** in that when the robot (9) holds on to the sheet during the bending, the coordinate system (X, Y, Z) is transferred and/or turned along with the work movement bending the sheet, and the robot (9) is simultaneously moved in the coordinates changing in this way towards the point corresponding to the starting moment of the bending.

7. The method according to claim 6, **characterized** in that the transferring and/or turning during the bending of the coordinate system is determined by measuring the position of the upper tool (11) of the press brake (6) in relation to the lower tool (12).

8. The method according to any of the preceding claims, **characterized** in that the robot (9) changes its grip from one gripping point to another when the sheet is in the grip between the tools (11, 12) of the press brake (6).

9. The method according to any of the preceding claims, **characterized** in that the first (101), second (102), third (103) and fourth (104) steps of the method are taken in the numerical control (1000) of the press brake (6), or the like, and the fifth (105) and sixth (106) steps of the method are taken in the numerical controller (2000) of the robot or robots (9), or the like.

10. The method according to any of the preceding claims, **characterized** in that the degree of automation of the movement program (200) controlling the robot (9) is set by the operator.